# Take Home Exercise - 1

Please elaborate on your design choices, the efficiency of your solution, edge cases considered, scalability of the solution and the alternatives considered.

1) You will be getting an input dataset (can be from a file or from a database table) at frequent intervals to be stored in the target database table. You should store only  the data that are new(inserts) or updated or deleted based on the primary key combination. The target table should have a field indicating whether a particular row is an Insert (I), Update (U) or Delete (D). Example below.

### Source Data

#### First Load

| Primary Key | | | | |
|---|---|---|---|---|
| Field1 | Field2 | Field3 | Field4 | Field5 |
| 1 | A | 1 | 1 | 1 |
| 1 | B | 1 | 1 | 3 |
| 2 | A | 2 | 2 | 5 |

### Target Data

#### First Load

| Primary Key | | | | | |
|---|---|---|---|---|---|
| Field1 | Field2 | Field3 | Field4 | Field5 | IUD |
| 1 | A | 1 | 1 | 1 | I |
| 1 | B | 1 | 1 | 3 | I |
| 2 | A | 2 | 2 | 5 | I |

#### Second Load

| Primary Key | | | | |
|---|---|---|---|---|
| Field1 | Field2 | Field3 | Field4 | Field5 |
| 1 | A | 1 | A | 1 |
| 2 | A | 2 | 2 | 5 |
| 3 | A | 2 | 2 | 5 |

#### Second Load

| Primary Key | | | | | |
|---|---|---|---|---|---|
| Field1 | Field2 | Field3 | Field4 | Field5 | IUD |
| 1 | A | 1 | A | 1 | U |
| 1 | B | 1 | 1 | 3 | D |
| 2 | A | 2 | 2 | 5 | I |
| 3 | A | 2 | 2 | 5 | I |

2) Given a list of CSV paths and a target database (user choice) host, and schema, write a class that reads the CSV's from the disk, and writes them into a target database.